Econ 311: Behavioral and Experimental Economics

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Reciprocity

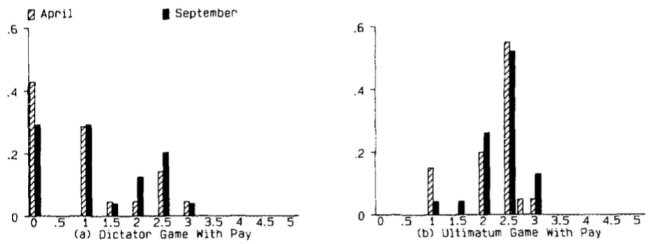
Motivating Evidence

- Recall dictator game from Forsythe et al (1994)
- What if we allow recipient to have some say in the matter?
  - 45 additional subjects drawn from same overall population
  - As before, one player proposes at division of a $5 endowment
  - New treatment: recipient can either accept or reject the offier
  - If reject, they both get $0
  - This is called the *ultimatum game*
- Expected results from classical preferences?

Ultimatum Game: Responder Behavior

- Rejections do happen, though not very often
  - 8 out of 45 (18%) of offers were rejected in total
- Rejection likelihood increases as offers get smaller
  - No offers of $2.50 (ie 50% of pie) or higher were rejected
  - 5 of 6 (83%) of offers less than $2.00 were rejected
- Rejection is a form of *costly punishment*

Ultimatum Game: Proposer Behavior



- Proposals below \$2.00 extremely rare
- Strong peak at \$2.50 (50-50 split)
- So in equilibrium, rejections are rare because low offers are rare

Explaining Rejections

- Recall Fehr-Schmidt model from last lecture:

$$U(x_1, x_2) = \begin{cases} x_1 - \beta(x_2 - x_1) & \text{if } x_1 \leq x_2 \\ x_1 - \alpha(x_1 - x_2) & \text{if } x_1 > x_2 \end{cases}$$

  where $\alpha < \beta \leq 1$
- Let $\beta = 1$ and $\alpha = \frac{1}{2}$
- Player 1 is responder
- What is utility of rejecting?
- Will player 1 accept payoffs $(\$2, \$3)$?
- Will player 1 accept payoffs $(\$1, \$4)$
- So responder's desire for equity can lead to decision that decreases total welfare (aggregate payoffs)

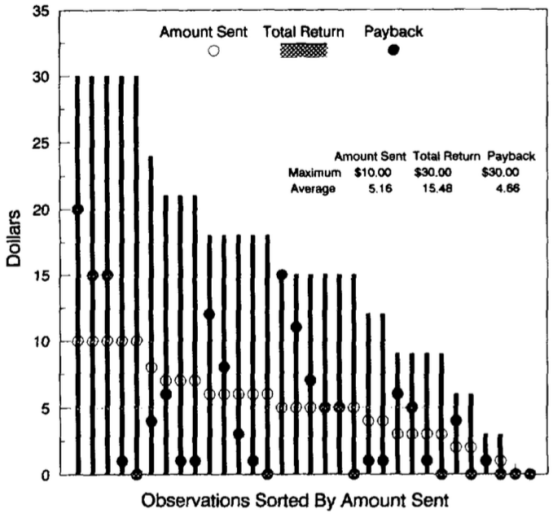
The Trust Game

- The ultimatum game is fairly limited in that it only allows the responder a binary choose: accept or punish
- What if we allow responder more variety in their choice, so they can not only punish, but also reward?
- The *trust game* accomplishes this
  - One player, the *trustor* starts out with $\$X$
  - Passes some amount $\$I \in [0, \$X]$ to other player, the *trustee* (so far, just like dictator/utlimatum)
  - Trustee gets $R \cdot \$I$ for $R > 1$, ie the passed amount is multiplied by interest rate R before trustee receives it
  - Trustee then can return some amount $\$P \in [0, R \cdot \$I]$ to trustor

Trust Game: Evidence

- Berg et all (1995)
- Trustors start with \$10
- Trustors and trustees in different rooms
- $R = 3$, ie if trustor passes \$1 it becomes \$3 for trustee
- Expected classical results?

Trust Game: Results



Trust Game: Discussion

- Did the average trustor make a profit by passing money to the trustee?
- Any limitations to design?